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ABSTRACT

The Central Visayas Regional Project (CVRP) 1 aims to use community based participation to address environmental dilemmas, particularly watershed management, which are exacerbated by harmful local production practices. The CVRP employs many characteristics of Farming Systems Research and Extension (FSR&E) which provides technical training in farming through extension education. This evaluation measured the degree to which popular participation occurs in one of the CVRP's working areas, the Ipil River Watershed of Bohol Province. The objectives of the evaluation were: (1) to measure the CVRP participant's perceived performance and perceived importance for a set of activities relating to the planning, execution, and evaluation of CVRP sponsored projects; (2) to determine which of the participation activities has a higher score for perceived importance than for performance; and (3) to determine the relationship between the CVRP program variables and responses regarding activities. In a spoken interview, participants rated local performance and importance of 23 activities relating to project planning, evaluation and implementation using a 0-4 scale. Findings showed that activities with the highest perceived participation (holding meetings, keeping records, and helping with new technology) also had the highest perceived importance. Activities with a substantive difference in means between perceived importance and perceived performance were: organizing trips, enforcing laws, looking for outside resources, registering associations, and experimentation. Recommendations include increasing local participation in the identified areas and improving methodology in future studies. (KS)

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Popular Participation and Farming Systems Research and Extension - Examining the Central Visayas Regional Project 1 in Bohol, Philippines

Paper Presented at the 1990 Meeting of the Association of Louisiana Evaluators

by

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INTRODUCTION

Rural families in the Central Visayas Region of the Republic of the Philippines face dire environmental, social and economic problems. In this region, the great majority of households in the rural upland and coastal areas are living in poverty (Segura-Ybañez and Edo-Sullano 1988). Population pressure forces many rural families to use production practices that are particularly harmful to sloping farm land. The environmental dilemmas of soil erosion, coastal silt deposit and destruction of reefs keep thousands of families on the edge of survival.

The Central Visayas Regional Project 1 (CVRP) aims to address this problem. It addresses the following issues: community based participation (often concentrating on the barangay or village level), watershed management, resource tenure, rural infrastructure and institutional development (Segura-Ybañez and Edo-Sullano, 1988). The CVRP's primary program areas include activities in upland farming (such as contour farming and livestock distribution) and nearshore fisheries (such as artificial reef installation and mangrove planting).

The CVRP uses a participatory approach in developing and testing technology for watershed management. Segura-Ybañez and Edo-Sullano (1988) describe the client farmers and fishermen as "de-facto" resource managers and partners with the CVRP field staff. The de-facto resource managers are active participants in the process of selecting and testing technologies and this high familiarity increases the adoption of worthy innovations. This arrangement also improves the field staff's appreciation of their partners' needs and conditions.

In its development programs, the CVRP employs many characteristics of Farming Systems Research and Extension (FSR&E). This is an approach that (1) views the whole farm as a system and (2) focuses on the inter-dependencies among the components of that system (Shaner, Philipp and Schmehl, 1982; this document

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uses the title Farming Systems Research and Development instead of Farming Systems Research and Extension). The CVRP has several characteristics that closely align it to the principles of FSR&E, including the promotion of rural client participation.

This evaluation was conducted to measure the degree to which popular participation occurs in one of the CVRP's working areas, the Ipil River Watershed of Bohol Province. It was to do this by meeting the following objectives:

1) To measure the CVRP participants' perceived performance and perceived importance for a set of activities relating to the planning, execution, and evaluation of CVRP sponsored projects.
2) To determine which of the participation activities has a higher score for perceived importance than for performance.
3) To determine the relationship between the following CVRP program variables or participant positions in their community and the participants' responses regarding those activities:
    - Duration of involvement with CVRP;
    - Affiliation with CVRP sponsored community organizations;
    - Participation in the CVRP's program activities.

Cultural differences, institutional issues and the logistical problems inherent in conducting social research in a developing setting hampered the study. Still, the CVRP management group recognized the importance of such an evaluation. Rosario-Braid (1988) saw a continued dependence of the rural clients on the CVRP field staff for project initiation and planning. As such, the study has considerable potential in helping the CVRP identify those participation activities that should be increased to realize its goal of enabling the beneficiaries to become de-facto managers of their resources.

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REVIEW OF LITERATURE

FSR&E is characterized as holistic and applied to the on-site characteristics of the rural beneficiaries. This is reflected by the heavy use of surveys to understand local conditions and on-farm experiments to determine whether or not proposed innovations are appropriate to those conditions. An extension component promotes the innovations that are successful in the on-farm experiments. In doing so, FSR&E programs strive for maximum local participation in the promotion and transfer of technology.

There is considerable literature about the application of participatory principles to FSR&E programs. Villa (1988) wrote that farmer contributions in planning activities should be encouraged because the clientele best understand the environment for which innovations are designed. He believed that increased participation would promote "people's ability and willingness to initiate and maintain changes that benefit their own" (Villa, 1988; page 2).

Villa examined FSR&E symposium proceedings of three years to determine the progress in inducing farmer participation in FSR&E programs. He found a participation "spectrum". One end was the paternalistic mode in which farmers' decisions were limited to whether or not they should accept a pre-packaged technology. On the other was the populist mode in which farmers do their own research with little or no outside help. FSR&E should help farmers adopt the second mode, but a varying mix of both is needed in most development situations.

Villa noted that many proponents of increased farmer participation base their premise on the agricultural development of the United States. However, this development was influenced by a tradition of popular democracy and farming as a prestigious occupation. This led to an easy partnership between farmers and researchers and to farmers taking the initiative in adopting innovations.

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In many developing countries, research is geared toward export commodities and most of the benefits tend to accrue to the elite. The small farmer has little power or prestige and does not receive much attention from national research and extension services. Villa wrote that these constraints must be addressed to induce small farmer participation.

Gilbert and others (1980) implied that the FSR&E process was, by itself, an effective vehicle for participation. As mentioned earlier, FSR&E's diagnostic component consists of farmer surveys. When participants realize that their input is sought in the planning stage of any program, they should be induced to increase their efforts in implementation. FSR&E also consists of on-farm experiments that are not only more relevant than those in laboratory conditions but physically are closer to the farmers, thus encouraging participation.

It would be naive, however, to assume that the very nature of FSR&E would be sufficient to induce a target community to participate in a program. While these programs are philosophically encouraging for clientele participation, the concrete steps still should be taken to ensure such participation. Change agents must understand the socio-economic condition of potential participants and use this knowledge to employ appropriate motivational methods. The participants should appreciate the goals and methods of the program. During implementation of the on-farm experiments, tangible motivational aids might have to be employed. An example of such an aid is the development of linkages with local credit and marketing institutions. This would have the dual effect of establishing credibility with local farmers and of providing those farmers with access to inputs thus encouraging higher participation in FSR&E activities. Other measures that promote popular participation include a comprehensive

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communication strategy, discussion, internal linkages with local leaders and the application of a program in solving local problems.

Sumayao (1983) found that participation of surveyed lay leaders in Southern Luzon, Philippines was primarily in program implementation, and minimal participation levels were found in planning and evaluation. This was due, in part, to extension agents' lack of enthusiasm regarding lay leader participation in these fields. However, lay leaders showed a high desire to participate in the planning process. While specifically geared toward measuring lay leader participation, the principles found in Sumayao's study can be applied to examine local participation in programs with an FSR&E focus. She advocated the development of a strong empirical base on development participation that could be used by change agents.

METHODOLOGY

The author designed a survey to measure local participation in CVRP activities in the Province of Bohol. The instrument used was a spoken interview in which respondents first gave general information regarding their participation in the CVRP. They then rated local performance and importance of twenty-three activities relating to project planning, evaluation and implementation using a zero to four scale. This series of participation activities was based on Sumayao's (1983) survey of lay leaders. The comparison of performance and importance scores for each activity was similar to Wergin's (1976) evaluation model for a public school guidance and counseling program.

The following activities relating to program planning, evaluation and implementation were listed in the survey:

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1) **Planning**

   a) Giving the CVRP local information to be used in planning

   b) Analyzing local needs and problems

   c) Forming project objectives

   d) Setting priorities among objectives (to choose which should receive attention first)

   e) Holding community dialogues or meetings to form barangay development plans and to reach a consensus regarding program activities

   f) Assessing/seeking local resources required for each objective (local resources are defined as those produced and obtained from within the barangay, such as animal manure or bamboo).

   g) Assessing/seeking outside resources required for each objective (these are defined as resources that are acquired outside the barangay, such as agro-chemicals or cement)

2) **Evaluation**

   a) Monitoring and measuring project activities

   b) Deciding on criteria and methods to be used in evaluation

   c) Keeping records of project activities

   d) Judging worth or outcome of project/activity

3) **Implementation**

   a) Encouraging neighbors to work on the project

   b) Encouraging neighbors to join organizations

   c) Teaching/Orienting organization officers and members to their duties and responsibilities

   d) Securing legal/formal registration of associations

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e) Giving technical assistance to neighbors/Helping neighbors with new technology

f) Experimentation/testing new technology

g) Training and development of neighbors in teaching technology

h) Establishing working relationships with other agencies (includes government and private organizations that could help the community)

i) Communicating notices or directives regarding project activities to neighbors

j) Organizing cross visits or exhibits (These usually are overnight trips for technical training sessions. These trips would either be to a provincial training center or outside the province for advanced programs.)

k) Enforcing barangay or association laws and regulations/Disciplining delinquent members (or non members) of an association or barangay

l) Serving as representative for CVRP field staff in meetings or activities.

The author found that respondents tended to give the same value to each question. He decided that he had to ask them to compare the degree of performance and importance of the participation activities within each section (planning, evaluation and implementation) of the instrument. To facilitate this, the author prepared a visual list of each participation activity.

The respondents often found the survey's activities regarding participation vague. When asked about which activities had the largest importance or degree of performance, they often ignored those mentioned in the survey. Instead, they talked about such tangible program activities as soil conservation. To address this problem, interviewers were instructed to ask about the

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types of participation in terms of the program activities in which the respondents participated, as mentioned in the survey's first part. This gave them a useful frame of reference when rating the participation activities.

The instrument was field tested and reviewed by the CVRP management and field staff. Three hundred and thirty-one respondents throughout the province were chosen through a systematic random sample. Eight interviewers were hired and attended a two day training session designed to instruct them on proper survey procedure. The interviews were conducted over a period of two weeks.

Data Analysis

The study's data analysis reflected the objectives to be addressed by the instrument. Means and standard deviations were calculated for the respondents' perceived performance and importance scores for each of the participation activities mentioned in the survey. A Spearman Correlation Coefficient (Spearman's Rho) was computed to determine the degree of correlation between the ranking of performance scores and importance scores for the participation activities. T-tests were performed for each participation activity to determine which had a significantly higher mean score for perceived importance than perceived performance. Since all of the participation activities showed a statistically higher score for perceived importance the author identified those with "substantive" significance. This term was described by Gold (1969) as findings that are considerable enough to justify conclusions and recommendations. He wrote that many studies reported their findings as significant even though they were inconsequential. To avoid this, participation activities for which perceived importance was more than half a point higher than perceived performance were classified as being substantively higher in importance. This identified those activities in which client participation should be improved.

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Further analysis was done on those participation activities with a substantively higher importance score relative to perceived performance. This included the following:

1) **Years of CVRP Participation** - Pearson's Correlation was performed to determine the relationship between a member's duration of participation with the CVRP and perceived performance.

2) **Participation in Organizations or Program Activities** - This concerns major organizations or program activities. The author defined major organizations or activities as those in which at least ten percent of the respondents claimed participation. He felt that these had a high enough number to be considered as legitimate program variables. Multiple t ratios were obtained to find significant differences between these subgroups and the rest of the sample. In this situation, c comparisons (each with an error rate of α) would result in a total error rate α_c. This is shown by the equation below:

$$\alpha_c = 1 - (1 - \alpha)^c$$

To insure that the total error rate α_c remains at an acceptable level, critical values were taken from the Studentized Range Distribution. The critical values in this distribution rise for each increase in the comparisons to be done. This avoids the multiplication of statistical error (Harter, 1969; Hochberg and Tamhane, 1987).

3) **Leadership Positions** - A t-test determined whether or not local leaders had a significant difference in perceived performance relative to non leaders.

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FINDINGS

The twenty-three activities relating to project participation were measured for perceived performance and importance. Those with the highest perceived participation; Holding Meetings, Keeping Records and Helping with New Technology; also had the highest perceived importance. A Spearman Correlation Coefficient of .860 showed a very strong relationship between the rank order of the performance scores and that of the importance scores. Looking for Outside Resources, Registering Associations and Organizing Trips had low scores for both performance and importance.

T-tests determined which of those activities had a significantly higher score for perceived importance relative to performance. All of the activities were so identified, and five had a substantive difference of at least half a point. These are listed below with the difference in means between perceived importance and perceived performance:

Organizing Trips (1.22)

Looking for Outside Resources (.99)

Enforcing Laws (.62)

Registering Associations (.56)

Experimentation (.51)

A connection was sought between the perceived performance of these five activities and several program variables. Length of participation had a small significant relationship with Looking for Outside Resources. Multiple t Ratios showed a significant difference between participants and non-participants of major organization or program activities in twelve cases. In the cases where participation in upland activities and organizations showed significant differences the perceived performance scores were generally higher. Respondents in nearshore activities and organizations gave lower performance scores. Those participation activities that, when associated with Upland and Nearshore

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organizations or program activities, showed a significant difference are shown below.

UPLAND ORGANIZATIONS OR PROGRAM ACTIVITIES

1) **Looking for Outside Resources** - Significant differences were found with Alayons/Sitio Organizations (neighbor associations), Contour Farming/Soil Conservation and Livestock Dispersal.
2) **Experimentation** - Significant differences were found with Contour Farming/Soil Conservation, Livestock Dispersal and Reforestation.
3) **Enforcing Laws** - A significant difference was found with Cooperatives/Free Farmer Federation Chapters.

NEARSHORE ORGANIZATIONS OR PROGRAM ACTIVITIES

1) **Looking for Outside Resources** - Significant differences were found with Fishermen Associations, Mangrove Planting and Artificial Reef Installation.
2) **Experimentation** - Significant differences were found with Fishermen Associations and Artificial Reef Installation.

Leaders showed significant differences in perceived performance relative to non leaders in three participation activities, Experimentation, Enforcing Laws and Organizing Trips.

CONCLUSIONS

The high correlation between the rank order of perceived performance and that of perceived importance could imply that the CVRP's beneficiaries are most active in the participation activities for which they see the greatest need. The CVRP can be justifiably proud in encouraging such participation.

However, every participation activity had a statistically higher score for perceived importance relative to perceived performance. This can have several

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reasons. One is the rural respondents' natural tendency to overstate their need for anything offered. Another is the fact that the rural beneficiaries are still dependent on the CVRP for the initiation and execution of program activities as mentioned by Rosario-Braid (1988). Lastly, the clientele's increased participation in CVRP programs have awakened them to the importance in increasing their self determination. This could be implied by their high importance scores. As such, a case could be made for the CVRP to increase local participation in all twenty-three participation activities with significantly higher importance scores. However, it should consider giving higher attention to those five activities identified as having substantive differences between perceived importance and perceived performance.

Further examination of these five activities would be in order. The CVRP believed that handling the logistics of a training session and obtaining outside resources were beyond the ability of marginal rural families. Therefore, the field staff had traditionally assumed the participation activities identified as Organizing Trips and Looking for Outside Resources. However, since the CVRP aspires to transfer management responsibility to its beneficiaries by its completion in 1991, it should increase local participation in all aspects. This would include improving its clientele's logistical ability in projects and training activities.

Enforcing Laws and Registration were participation activities that implied the need for of formal, operative organizations. According to Virgilio Zabala, the Site Manager for the Bohol Upland Unit, the CVRP typically places a higher priority on functional activities than on formal structure regarding its affiliated organizations. However the scores for these two activities could suggest that improving organizational effectiveness could be a legitimate

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concern. Tangible actions by CVRP associated associations would facilitate the transfer of management responsibility to those groups.

One of the major principles of FSR&E is that innovations should be appropriate for the areas to which they are introduced. This is helped by local participation in the testing of those innovations. Experimentation was one of the participation activities that had a substantively higher importance score relative to importance. The CVRP could better achieve the aims of FSR&E by addressing this issue.

There are two reasons why the CVRP should not rely on its beneficiaries' increased experience for a higher degree of participation. One is that none of the participation activities had a large correlation with length of participation. Another reason is that the CVRP only has until the end of 1991 to conclude its activities. This shows the need for the CVRP to make an active effort to increase its beneficiaries' share of program responsibility.

Organizations and program activities' influence on the performance of participation activities implies that nearshore beneficiaries are not very active participants compared to their upland counterparts. A possible reason is the nature of the primary nearshore activities. Artificial reef installation and mangrove planting are constant, static activities which, as practiced by the CVRP, have small emphasis on local management and adaptation. Upland activities often must adapt to individual farms or communities and need a greater degree of local input. Nearshore programs should have a higher emphasis placed on local adaptation and management.

Three of the participation activities showed leaders with larger performance scores. Both the CVRP and local leaders should take measures to promote the visible performance of these activities. This could be helped by

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an increased flow of communication, both within the local organizations and between those organizations and the CVRP.

Recommendations

Based on his experiences in designing and conducting the study and on that study's findings, the author divided his recommendations into two categories. The first is recommendations for practice and the second is for further study.

Recommendations for Practice - These suggestions for actively increasing local participation are primarily addressed to the CVRP. However, they could apply to any other program using a systems approach and wishing to increase its beneficiaries' active participation.

1) **Promote visible local contribution in program activities.** This should help address such needs identified in the findings as Looking for Resources, Registering Associations and Experimentation. The author believes that program activity plans submitted by the CVRP's technical components should have the following provisions:

   - **Local Contribution in Obtaining Outside Resources** - Obtaining outside resources is often beyond the beneficiaries' current abilities. The CVRP is addressing this need by increasing the local supply of such inputs as planting materials. This should be expanded as should activities that increase the local economic base, such as sea farming or upland fishing. This way, the clientele's potential access to resources will continue after the project's completion.
   - **Local Contribution to Adapting Program Activities to Local Conditions** - Emphasis should be placed on involving all clientele, not just local leaders in this adaptation.

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- **Local Approval of Program Activity** - This can be in the form of an association resolution. It would show that such an association is an active functioning organization and that the program activity is a priority with that organization. It will also maintain communication within the association.

2) **Increase emphasis on local participation in nearshore program activities** - The CVRP should try to decrease the gap in perceived performance between nearshore and upland beneficiaries, particularly in the fields of seeking resources and adapting to local conditions. This would entail increased attention to such programs as sanctuary management and sea farming. Another possibility would be to promote advanced programs in Artificial Reef and Mangrove Management which place a high emphasis on local management.

3) **Promote visible local contribution in training programs.** This should help address the needs identified in the survey findings pertaining to Organizing Trips (which is typically for training) and Training Neighbors. The author believes that training designs submitted to the CVRP's Training and Manpower Development component should have the following provisions:

- **Local Contribution to Organizing Training Sessions or Trips** - The Site Management Units prefer to conduct training in centers outside the barangays where the clientele are not distracted by household concerns and where facilities are available. Therefore, they typically assume the logistical concerns. However, having a beneficiary in each barangay act as a visible liaison between the Site Management Units and the

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clientele would improve local participation in this regard. It also will increase the beneficiaries' familiarity with the logistics of such activities, increasing their ability to continue them after the CVRP's conclusion.

- **Local Contribution to Training and Program Design** - The literature showed various instances where training is enhanced by local contributions.
- **Local Approval of Training Design** - The last can be in the form of an association resolution. It would show that the design was presented to its intended beneficiaries and that they appreciated its goals and methods.

Recommendations for Study - These recommendations are appropriate for future evaluations for the CVRP and any other study measuring popular participation in FSR&E.

1) **Ensure that all interviewers use the same survey procedure.** The author tried to do this with a training session and staggered scheduling. Increased supervision during data collection would have been desireable but it was limited by transportation constraints in a developing rural area over seven municipalities. However supervision could have been increased in times when it was easiest, such as the field experiences in training. Future researchers should use counselling sessions with interviewers after field experiences to identify and correct mistakes. If the interviewers' proficiency is still uncertain, they should be kept in nearby areas where supervision is easiest.
2) **Use more intensive analysis in examining participation activities.** Almost all the activities relating to program participation in the

activity were found to have to be significantly higher in perceived importance than in perceived performance. It became necessary to identify those activities with the largest differences. It would have been appropriate to use statistical methods that were specifically designed to do this. One example would be Analysis of Variance followed by a multiple analysis tool such as Least Significant Difference. These tools can help future researchers infer which activities should receive higher priority or attention.

The Central Visayas Regional Project, 1 promotes a partner relationship with its beneficiaries. This study was conducted to recommend ways in which this partnership can be strengthened through increasing the clientele's share of program management. This is a major goal of the CVRP since it wants its beneficiaries to continue as the de-facto resource managers of their communities after the Project's completion.

This study's examination of the link between Farming Systems Research and Popular Participation has significance for other programs. It shows ways in which those programs can increase the active involvement of their clientele. This should result in increase self determination and the advancement of sustainable, equitable development.

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